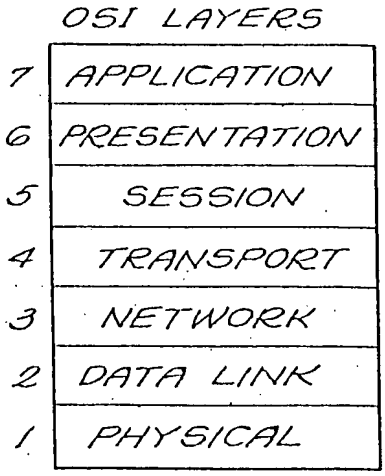

FIG. 1
(PRIOR ART)

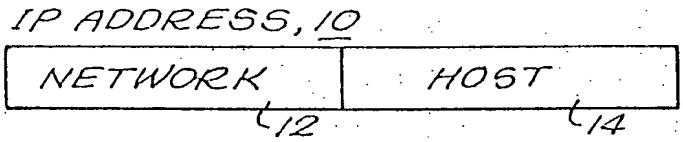

FIG. 2
(PRIOR ART)

	ADDRESS, 40	PREFIX LENGTH, 42	INTERFACE, 44
30	1.0.0.0	8	C
32	1.2.3.0	24	B
34	1.2.4.0	24	A
36	1.2.0.0	16	A

FIG. 4A
(PRIOR ART)

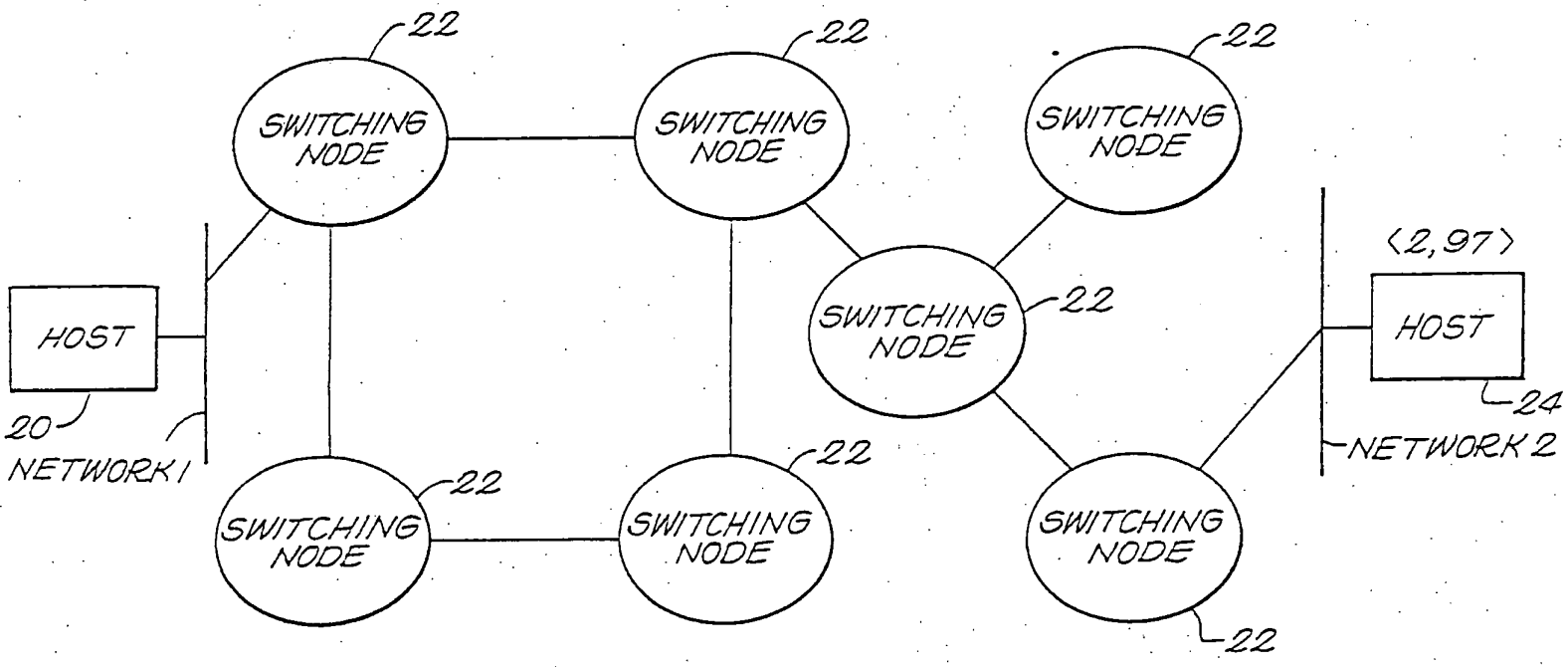

FIG. 3
(PRIOR ART)

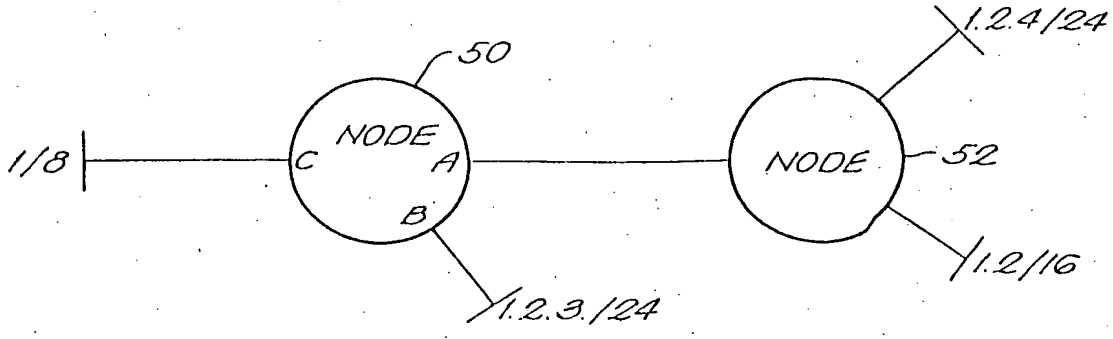

FIG. 4B
(PRIOR ART)

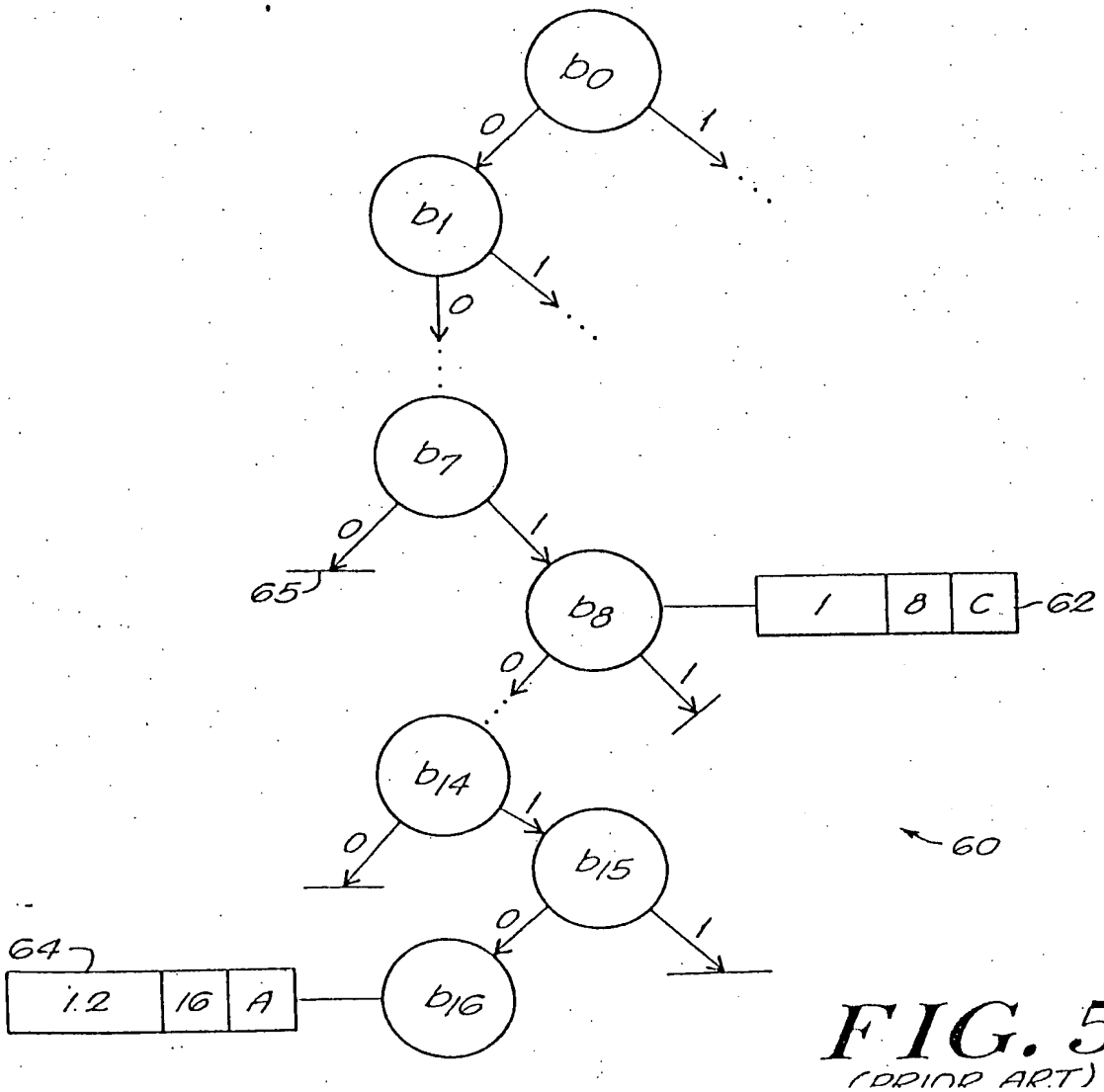

FIG. 5
(PRIOR ART)

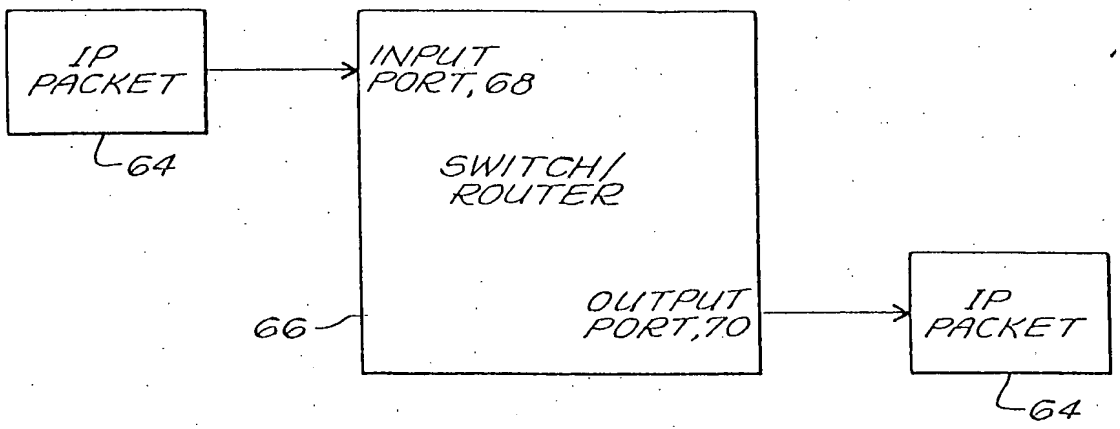
IP PACKET
64
INPUT PORT, 68
SWITCH/ ROUTER
66
OUTPUT PORT, 70
IP PACKET
64

FIG. 6

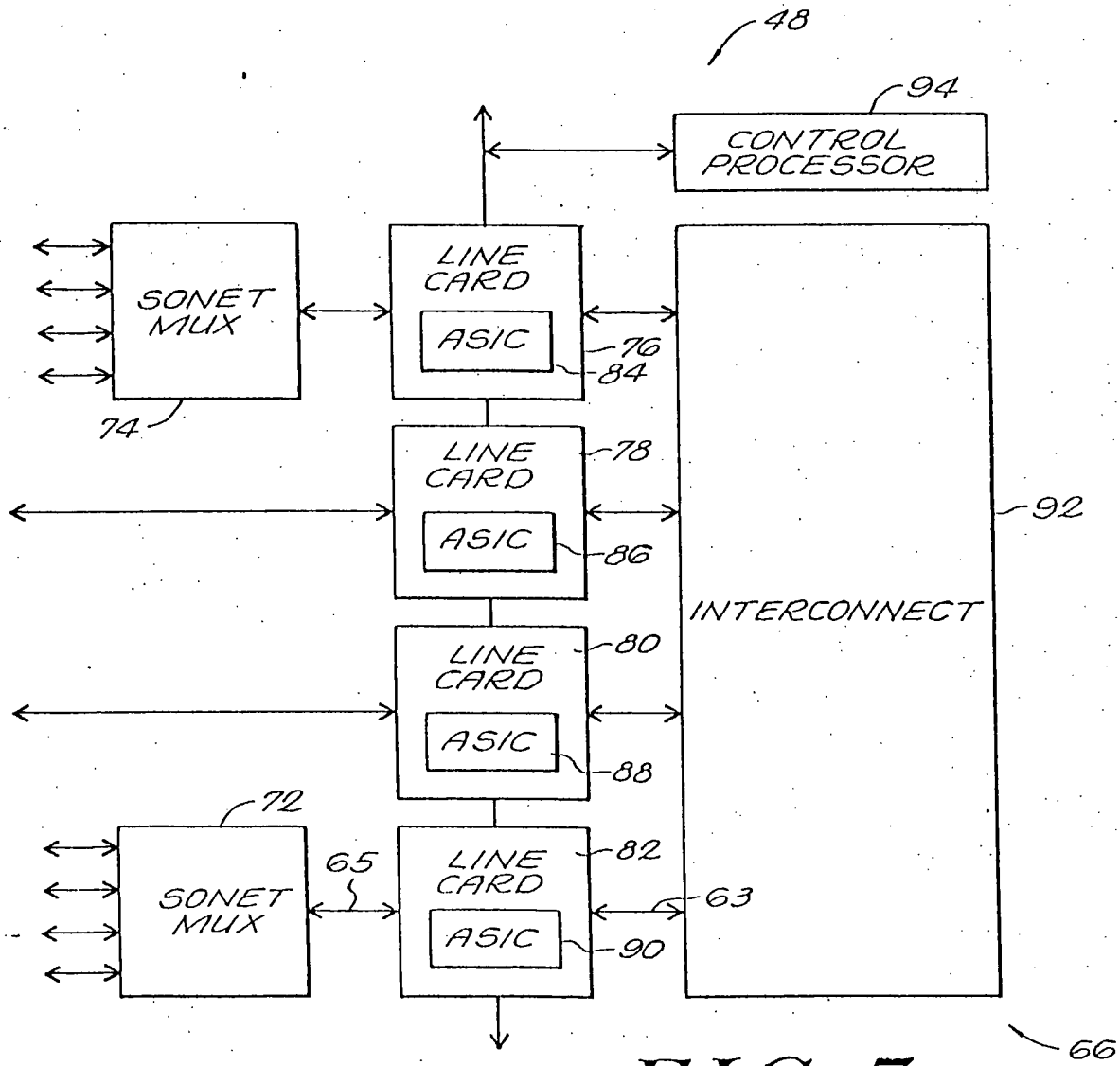
48
94
CONTROL PROCESSOR
SONET MUX
74
LINE CARD
ASIC
76
84
LINE CARD
78
ASIC
86
92
INTERCONNECT
LINE CARD
80
ASIC
88
72
SONET MUX
65
LINE CARD
82
ASIC
90
63
66

FIG. 7

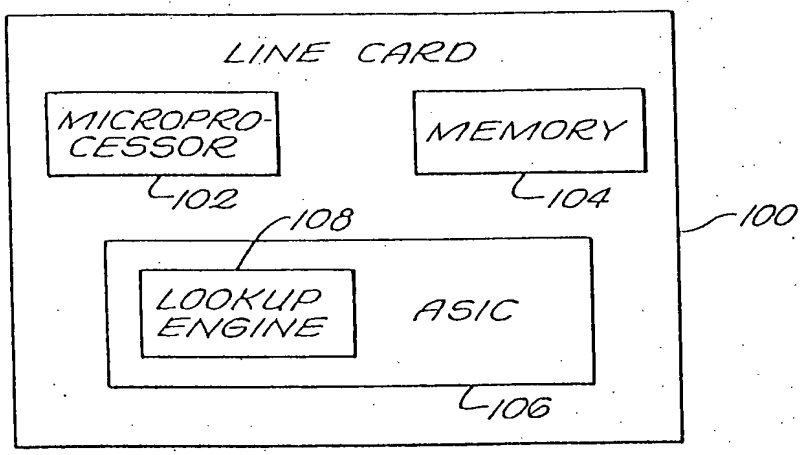
LINE CARD
MICROPRO-
CESSOR
102
MEMORY
104
100
108
LOOKUP
ENGINE
ASIC
106

FIG. 8

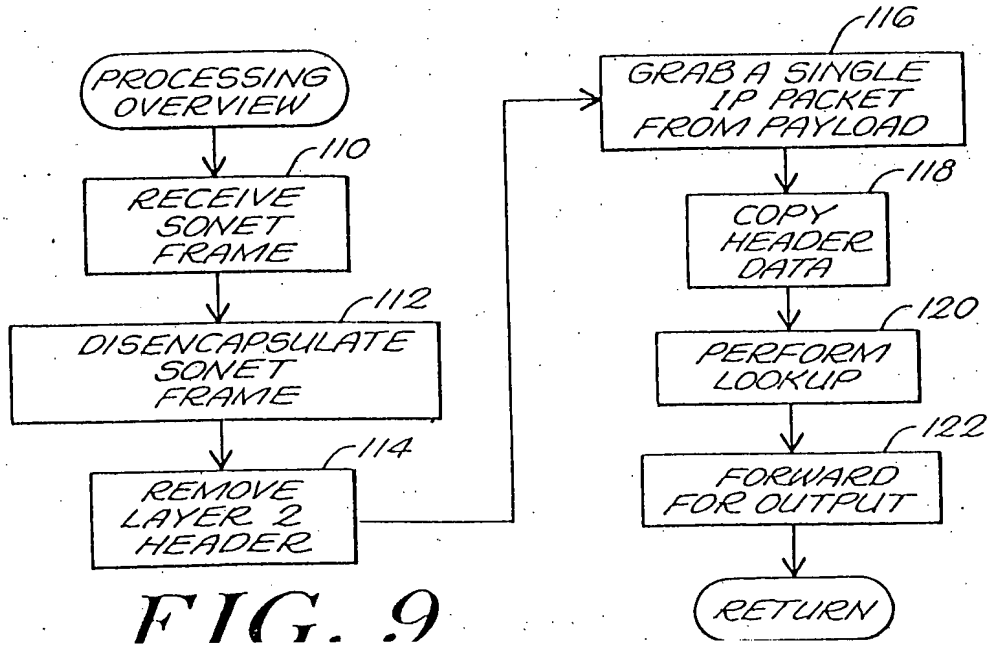
PROCESSING
OVERVIEW
110
RECEIVE
SONET
FRAME
112
DISENCAPSULATE
SONET
FRAME
114
REMOVE
LAYER 2
HEADER
116
GRAB A SINGLE
IP PACKET
FROM PAYLOAD
118
COPY
HEADER
DATA
120
PERFORM
LOOKUP
122
FORWARD
FOR OUTPUT
RETURN

FIG. 9

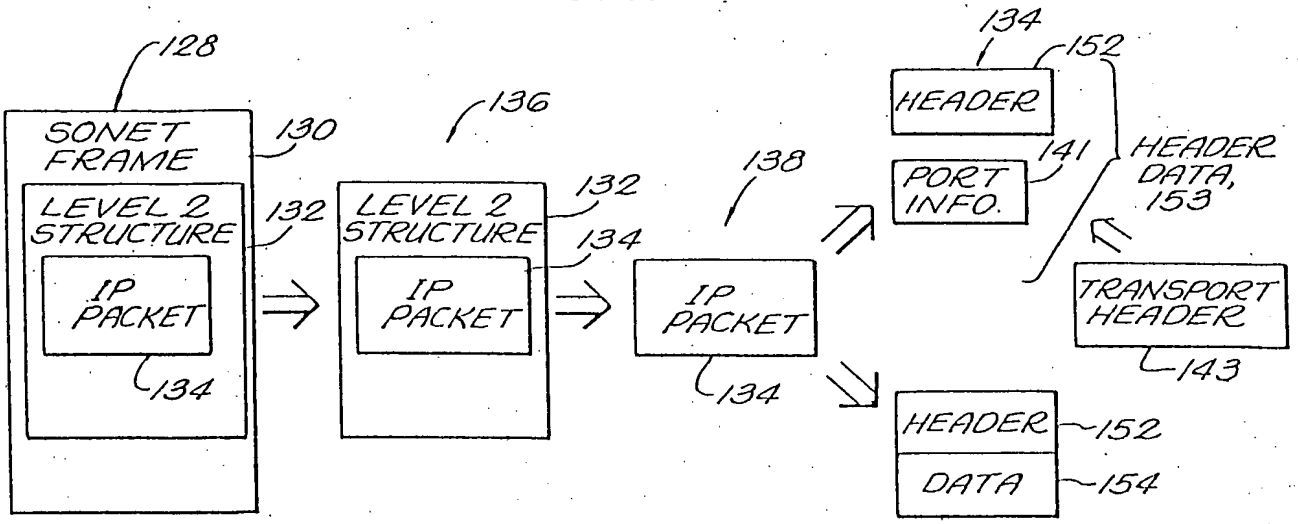

FIG. 10

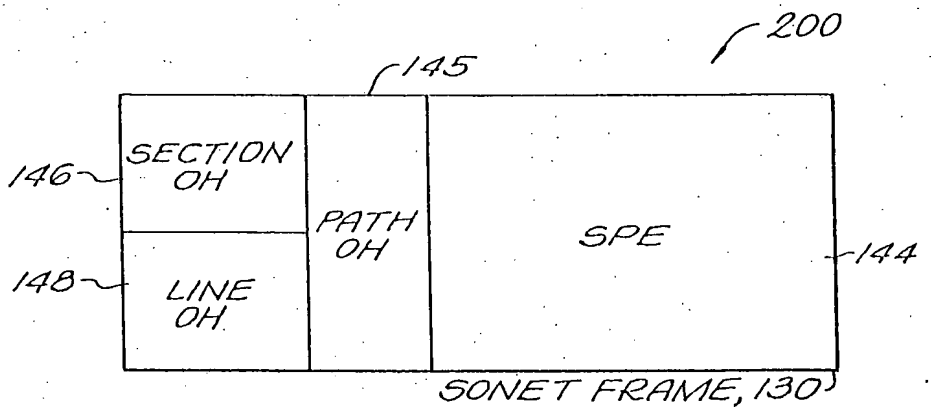

FIG. 11

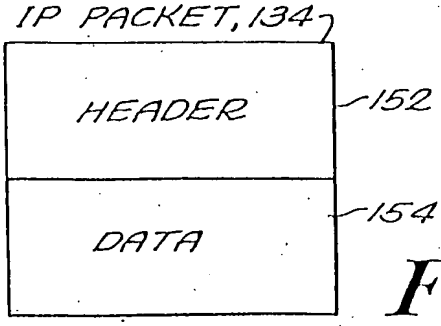

FIG. 12

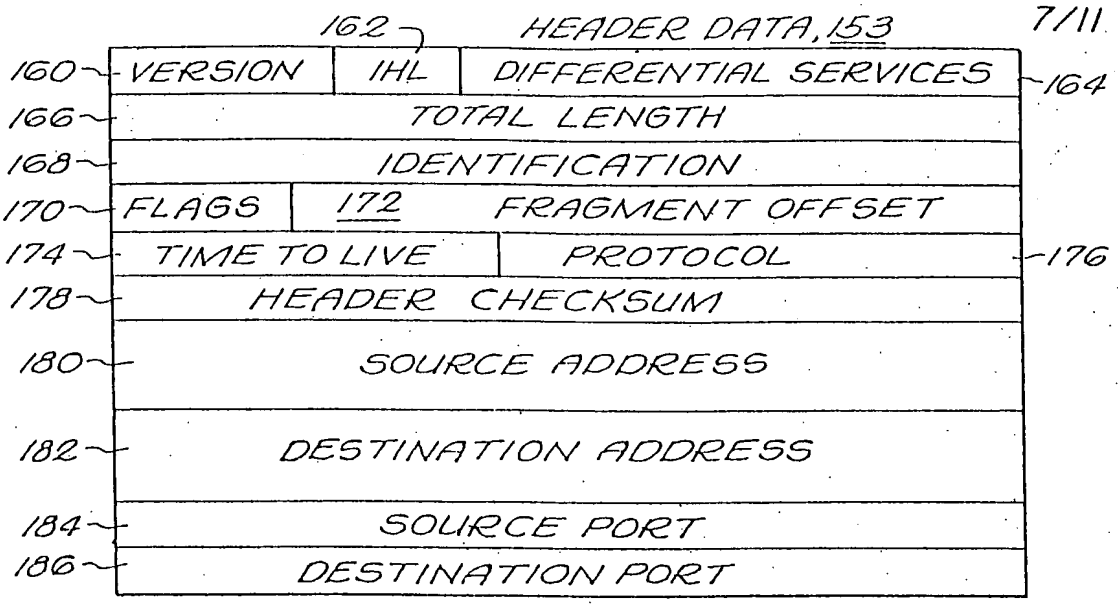

FIG. 13

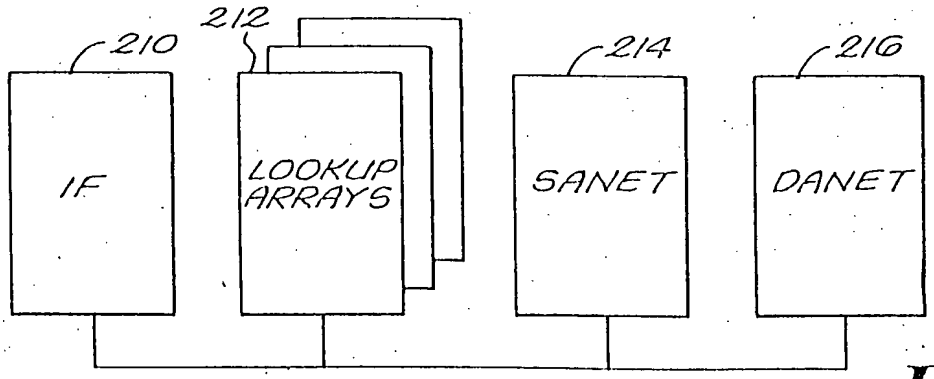

FIG. 14

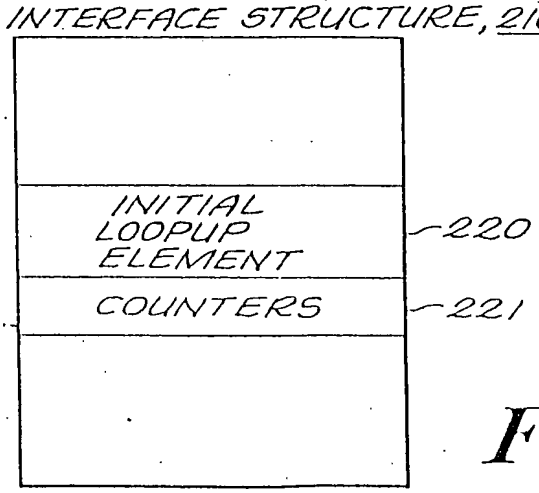

FIG. 15

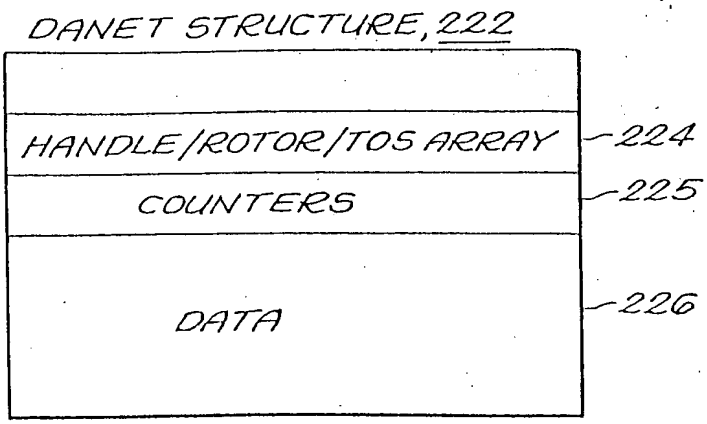
DANET STRUCTURE, 222
HANDLE/ROTOR/TOS ARRAY
224
COUNTERS
225
DATA
226

FIG. 16

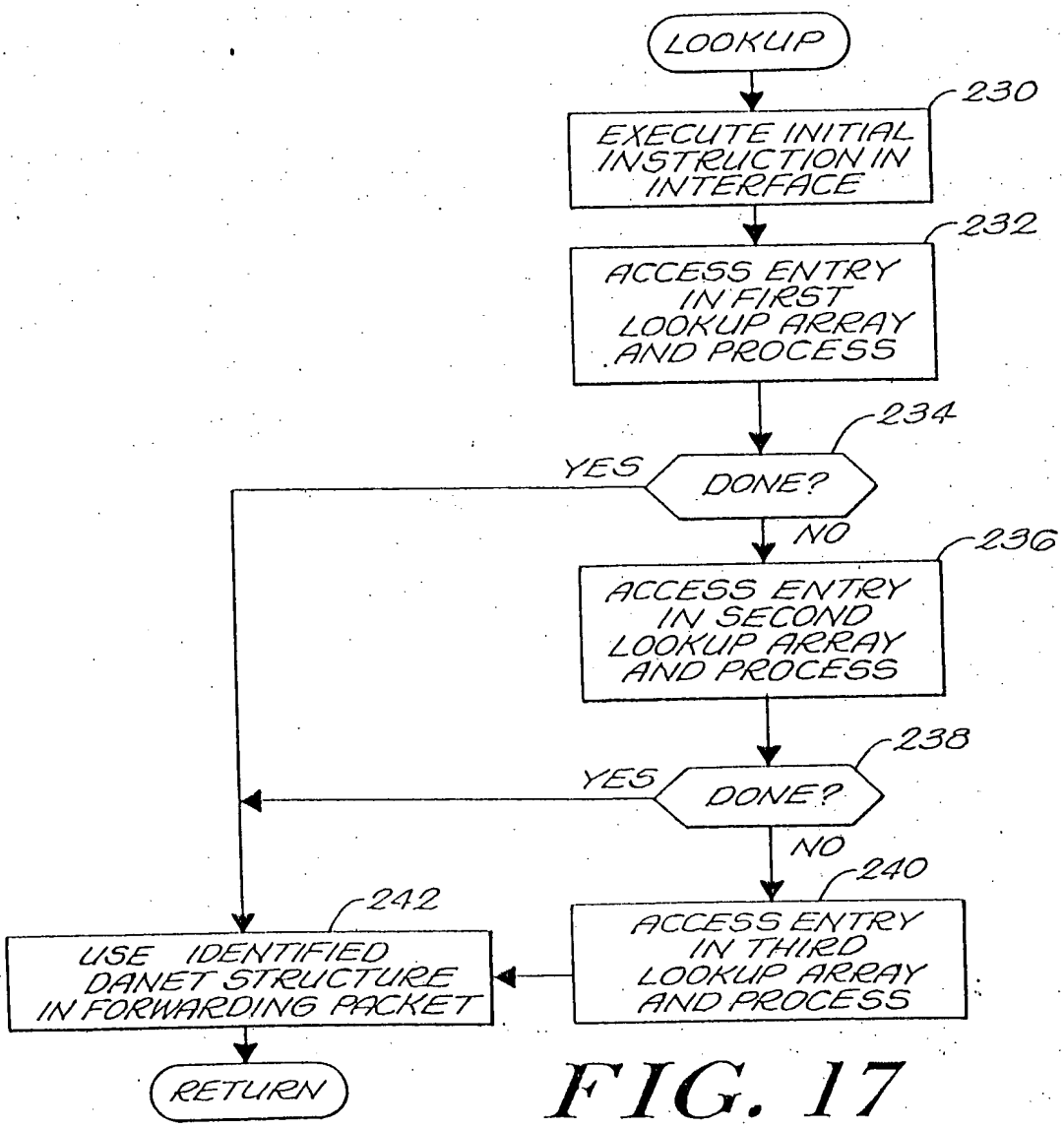
LOOKUP
EXECUTE INITIAL INSTRUCTION IN INTERFACE
230
ACCESS ENTRY IN FIRST LOOKUP ARRAY AND PROCESS
232
DONE?
234
YES
NO
ACCESS ENTRY IN SECOND LOOKUP ARRAY AND PROCESS
236
DONE?
238
YES
NO
ACCESS ENTRY IN THIRD LOOKUP ARRAY AND PROCESS
240
USE IDENTIFIED DANET STRUCTURE IN FORWARDING PACKET
242
RETURN

FIG. 17

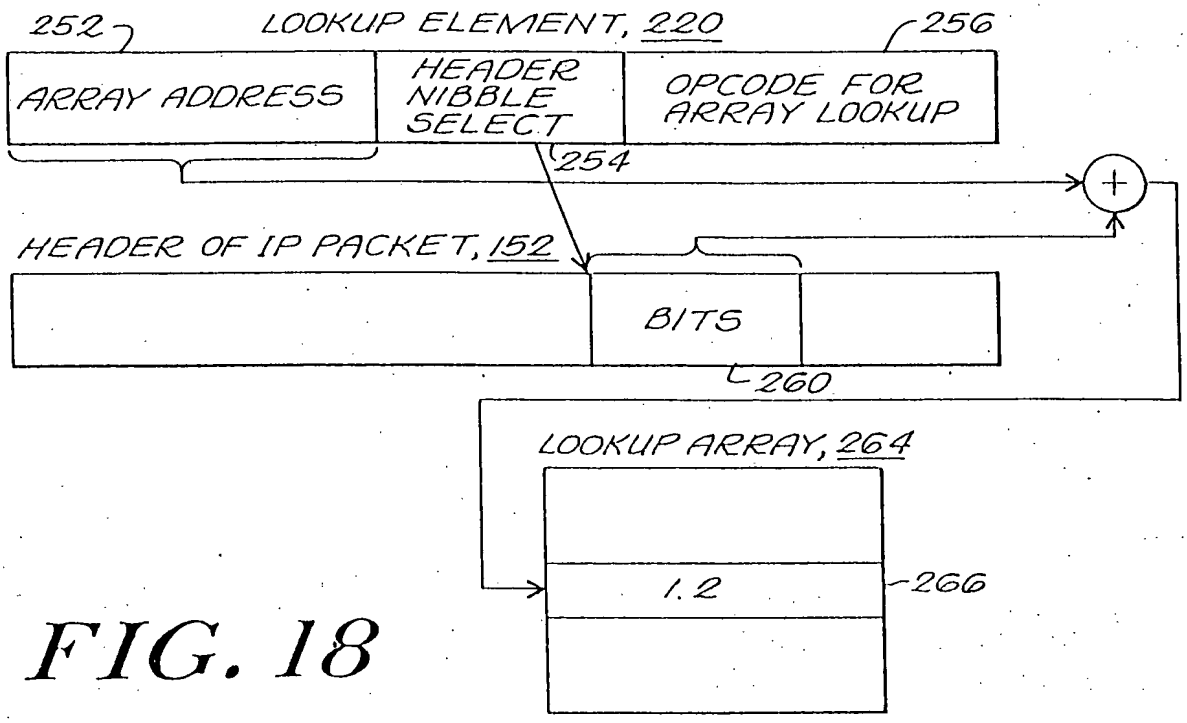

FIG. 18

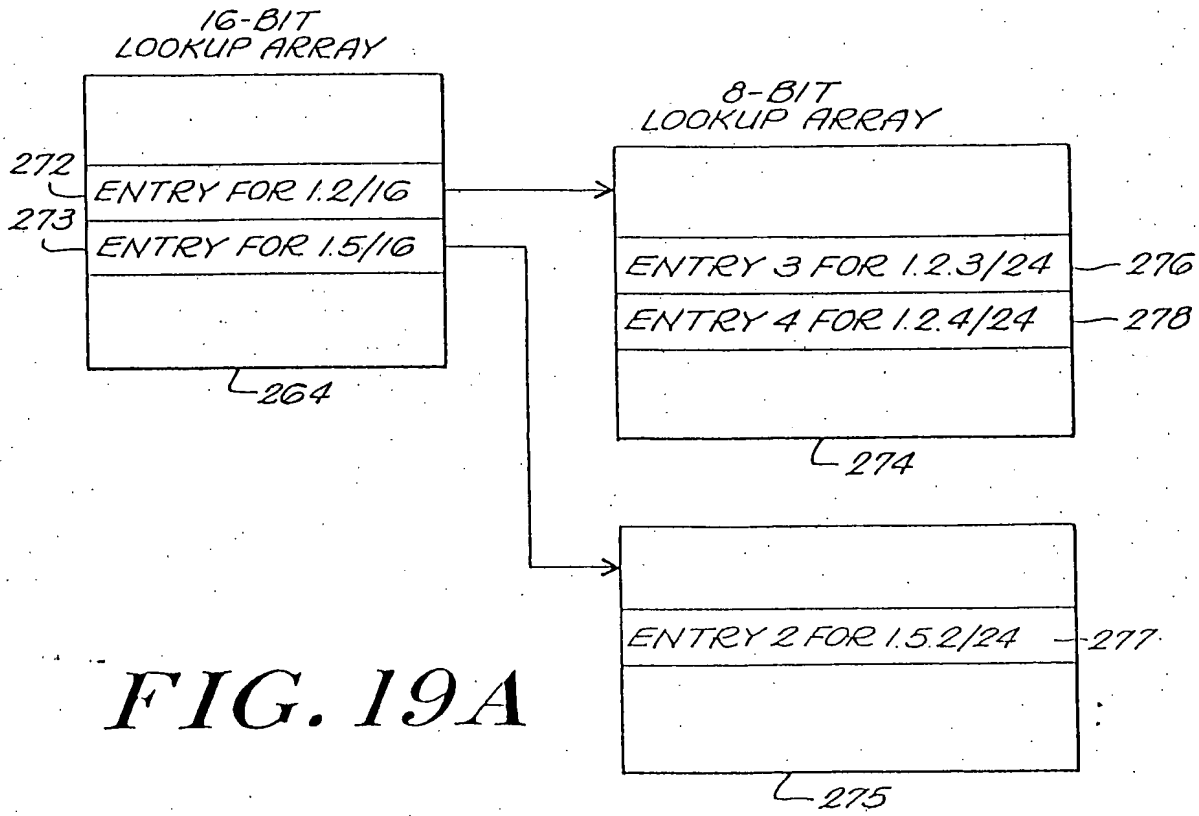

FIG. 19A

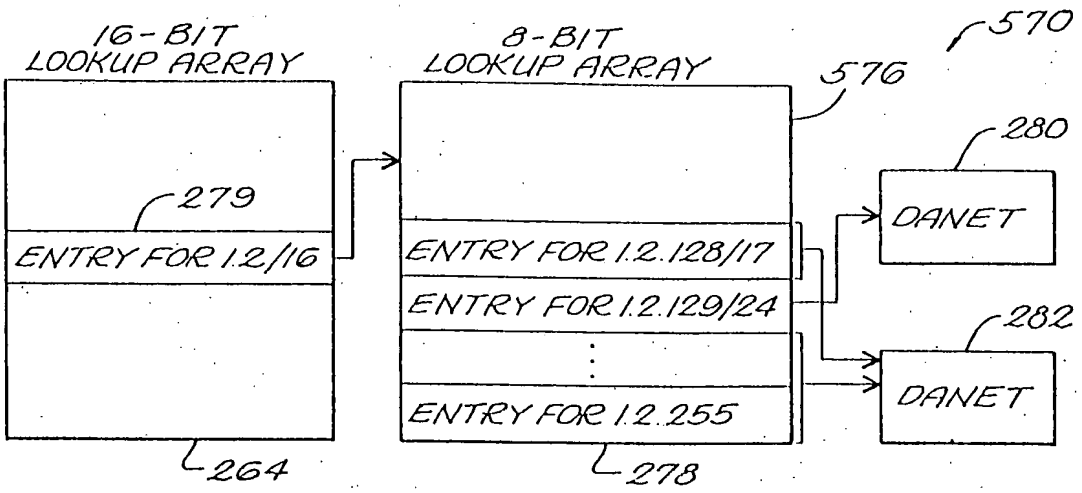

FIG. 19B

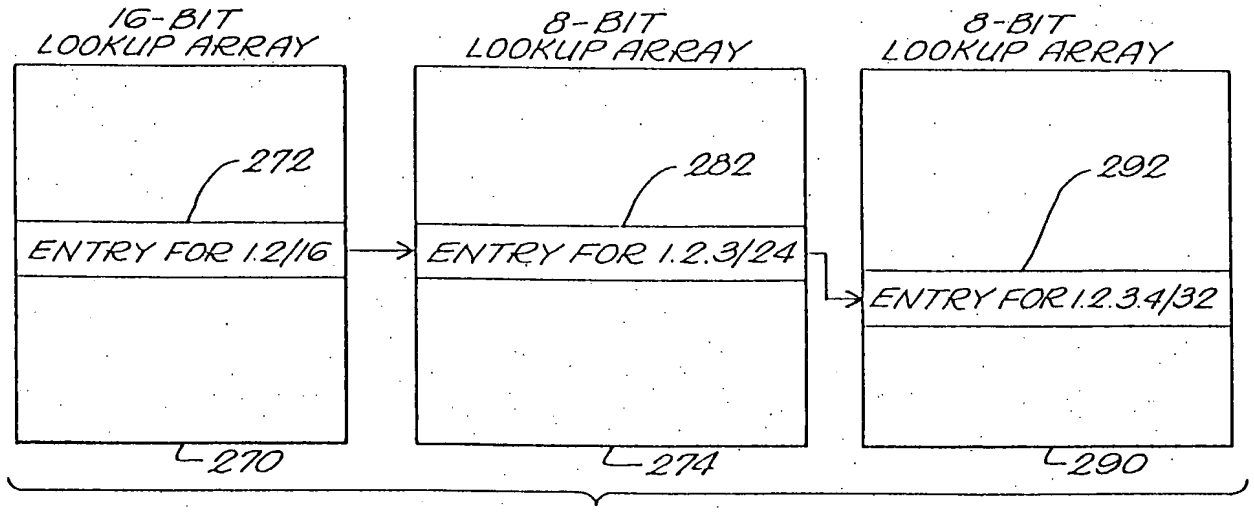

FIG. 19C

LOOKUP ELEMENT, 300

ARRAY ADDRESS	HEADER NIBBLE SELECT	OPCODE

FIG. 20

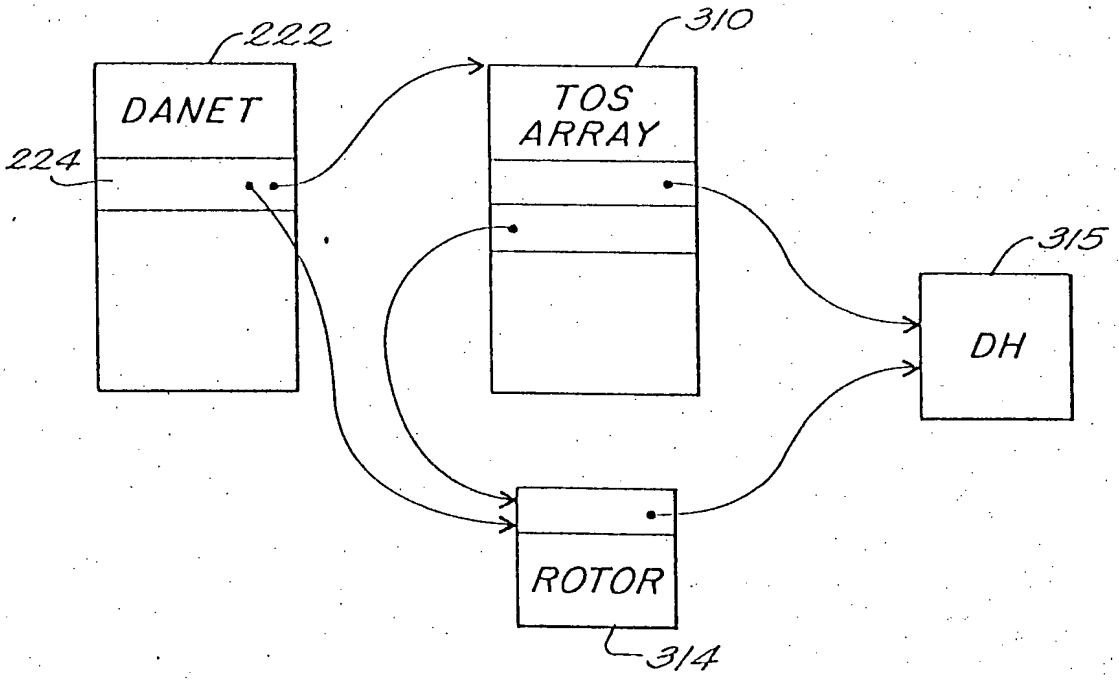

FIG. 21